The intervention model for affective involvement and its effectiveness
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CHAPTER 4

Applying the intervention model for fostering affective involvement with persons who are congenitally deafblind: An effect study

Abstract

Introduction: In this study, we applied the Intervention Model for Affective Involvement (IMAI) to four participants who are congenitally deafblind (CDB) and their 16 communication partners in three different settings (school, daytime activities center, group home). We examined whether the intervention increased affective involvement between the participants and their communication partners and whether it increased positive emotions and reduced negative emotions in the participants. Methods: We used video observations in a multiple-baseline design across subjects to assess the effects of the 20-week intervention on the communication partners’ interactions with the participants. Results: After onset of the intervention, affective involvement increased for 3 participants, while all 4 participants showed an increase in positive emotions and a decrease in negative emotions. During follow-up, the positive effect on the participants’ behaviors decreased in most cases, but remained visible as compared to the baseline level. Discussion: The findings demonstrate that the IMAI can be successfully applied to persons who are CDB. Given the small number of participants, replication of the intervention is recommended. Implications for Practitioners: Affective involvement can be increased by training, but it is difficult to maintain this effect over time. Coaching of communication partners on a more permanent basis is recommended to maintain the sharing of emotions between persons who are CDB and their communication partners.
4.1 Introduction

Affective involvement or the mutual sharing of emotions is vital to regulate emotions and develop secure attachment relationships (for a review, see Diamond & Aspinwall, 2003). Given the importance of affective involvement in human relationships, it is sad that it rarely occurs between persons who are congenitally deafblind (CDB) and their communication partners. This low occurrence is due to communication constraints caused by congenital deafblindness (Rødbroe & Souriau, 1999), but it has been shown that affective involvement can be fostered by training the communication partners (Chen, Klein, & Haney, 2007; Janssen, Riksen-Walraven, & Van Dijk, 2003; Martens, Janssen, Ruijssenaars, Huisman, & Riksen-Walraven, 2014b).

In a previous paper we introduced the Intervention Model for Affective Involvement (IMAI) to improve affective involvement during interaction and communication between persons who are CDB and their communication partners (Martens, Janssen, Ruijssenaars, & Riksen-Walraven, 2014a). An intervention based on this model was evaluated in a single-case study (Martens et al., 2014b). After onset of the intervention, affective involvement between the participant and his communication partners increased, as did the participant’s positive emotions, while his negative emotions decreased.

The aim of the present study was to apply the IMAI to 4 participants who are CDB (henceforth referred to as “clients”) and their 16 communication partners in different settings and interactional situations, and to examine the effectiveness of the intervention. We examined: (1) whether the intervention increased affective involvement and positive emotions and reduced negative emotions across clients and (2) whether the intervention was effective across communication partners (teachers, teacher assistants, caregivers, caregiver assistants), interactional situations, and settings (school, group home, daytime activities center).

4.2 Method

4.2.1 Participants and Settings

The study followed the tenets of the World Medical Association Declaration of Helsinki on Ethical Principles for Medical Research Involving Human Subjects and was approved by the Institutional Review Board of Royal Dutch Kentalis. Informed consent was obtained both from the clients’ parents, legal representatives, and communication partners.

Four clients (Clarice, Bryan, Dewy, and Nick, see Table 1; all names pseudonyms) and 16 female communication partners (Table 2) participated. The clients were selected for participation using three criteria: a) a dual sensory impairment from birth on b) showing difficult emotional behaviors and c) a request for coaching by the
4.2 Method

4.2.1 Participants and Settings

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Four clients (Clarice, Bryan, Dewy, and Nick, see Table 1; all names pseudonyms) served as participants. The communication partners were selected on the following criteria: a) working frequently with the client and b) having difficulties in sharing emotions with the client.

The communication partners received coaching from three coaches (one for Clarice and Nick, one for Bryan, and one for Dewy). The coaches were familiar with the aim, principles, and protocol of the IMAI, and skilled in conducting video analysis and coaching with video feedback. They had extensive work experience and were specialized in interaction and communication with persons who are CDB.

The study was conducted in structured settings involving a fixed day program (school: Bryan, Dewy; daytime activities center: Clarice) and in unstructured settings involving a more flexible day program (group home: Clarice, Dewy, Nick). All these settings belong to Royal Dutch Kentalis, an organization specialized in auditory and/or visual disabilities.

<table>
<thead>
<tr>
<th>Clients</th>
<th>Diagnosis</th>
<th>Sensory impairment</th>
<th>Communicative functioning</th>
<th>Behaviors difficult to interpret and attune to</th>
<th>Physical functioning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clarice, female, 26</td>
<td>Congenital Rubella</td>
<td>Visually impaired and deaf</td>
<td>Pushing, pulling, touching, gesturing, understanding some conventional signs, augmentative communication (full color pictogram)</td>
<td>Agitation, inactive, self-stimulation</td>
<td>Spastic paralysis of the legs</td>
</tr>
<tr>
<td>Bryan, male, 15</td>
<td>Marden Walker Syndrome</td>
<td>Visually and hearing impaired</td>
<td>Pushing, pulling, touching, gesturing, vocalizing comfort and discomfort, understanding some concrete objects of reference, reacting to name calling</td>
<td>Protesting, non-cooperative, self-stimulation</td>
<td>Motor and balance problems</td>
</tr>
<tr>
<td>Dewy, female, 15</td>
<td>Severe shortage of oxygen at birth</td>
<td>Visually and hearing impaired</td>
<td>Speech, gesturing, some conventional signs, augmentative communication (drawing, black and white pictogram)</td>
<td>Aggressive, reactive, compulsive, easily distracted</td>
<td>Epilepsy</td>
</tr>
<tr>
<td>Nick, male, 54</td>
<td>Congenital Rubella</td>
<td>Blind and deaf</td>
<td>Pushing, pulling, touching, gesturing, some objects of reference, understanding 2 conventional signs (drinking, finished)</td>
<td>Aggressive, agitation, self-injurious and dominant behaviors (pushing and pulling)</td>
<td>Diabetes at older age; high blood pressure</td>
</tr>
</tbody>
</table>
Applying the intervention model for fostering affective involvement with persons who are congenitally deafblind: An effect study

Table 2
Characteristics of the Clients’ Communication Partners

<table>
<thead>
<tr>
<th>Client</th>
<th>Number of communication partners</th>
<th>Age of communication partners</th>
<th>Years of work experience with clients</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Range M (SD)</td>
<td>Range M (SD)</td>
<td></td>
</tr>
<tr>
<td>Clarice</td>
<td>4</td>
<td>21-41 30.25 (8.46)</td>
<td>1.5-10 5 (4.1)</td>
<td>Caregiver (3) Caregiver assistant (1)</td>
</tr>
<tr>
<td>Bryan</td>
<td>3</td>
<td>46-54 50.67 (4.17)</td>
<td>9-25 14.67 (7.3)</td>
<td>Teacher (2) Teacher assistant (1)</td>
</tr>
<tr>
<td>Dewy</td>
<td>5</td>
<td>35-55 44.6 (8.27)</td>
<td>4-25 16.4 (8.88)</td>
<td>Teacher (2) Caregiver (1) Caregiver assistant (2)</td>
</tr>
<tr>
<td>Nick</td>
<td>4</td>
<td>22-49 35 (12.94)</td>
<td>1-25 9.25 (9.81)</td>
<td>Caregiver assistant (4)</td>
</tr>
<tr>
<td>Total group</td>
<td>16</td>
<td>21-55 39.75 (11.93)</td>
<td>1-25 11.87 (9.32)</td>
<td>Teacher (4) Teacher assistant (1) Caregiver (4) Caregiver assistant (7)</td>
</tr>
</tbody>
</table>

4.2.2 The Intervention

The IMAI-based intervention aimed to foster affective involvement between the clients and their communication partners during interaction (Phase I of the intervention, see step 1-4 in the section Intervention Protocol) and communication (Phase II of the intervention, see step 5-8 in the Intervention Protocol). The intervention principles were to improve the communication partner’s competence in: a) recognizing affective behaviors, b) attuning to interactive behaviors, c) sharing meaning for better understanding, d) sharing emotions and evaluating the adequacy of their own affective behavior during interaction and communication, and e) adapting the context to promote affective involvement.

The coaches followed the 7-step protocol to foster affective involvement and trained the communication partners using team and individual coaching in steps 4 and 6. Coaching included video analysis, information transfer, and role-playing (Martens et al., 2014a).

**Intervention Protocol.**

The steps in the intervention protocol followed by the coaches were:

Phase I: Intervention focusing on Interaction
Step 1: *Determining the question*. The communication partners of the four clients requested coaching.

Step 2: *Clarifying the question*. Information on the clients’ characteristics was gathered and relevant interactional situations were chosen in consultation with the communication partners. Table 3 lists the target questions for the clients.

Step 3: *Analyzing interactions*. Recordings of interaction situations with each client were analyzed to formulate intervention aims based on the four core categories, defined as (Martens et al., 2014a): a) attention: focusing on the interaction partner, the content of the interaction, and the persons and/or objects within the interaction context; b) initiatives: starting an interaction or raising a new idea or issue as part of a reaction; c) regulating intensity: waiting while the client is adapting the intensity or pace of the interaction and/or is processing new information; and d) affective involvement: recognizing positive and negative emotions and sharing these emotions in a positive way that is perceivable for the client. Table 3 shows the intervention aims and interactional situations for all clients.

Step 4: *Implementing intervention focusing on interaction*. During two 120-minute team-coaching sessions and three 60-minute individual sessions over 10 weeks, the communication partners were trained to change their interactive behaviors. The client’s communication modalities were taken into account (see Table 1: Communicative functioning) and the communication partners were coached to foster affective involvement while simultaneously focusing on the four core categories. The following are examples of activities for each category: 1) attention: communication partners were taught to tap on an object together with the client or to co-actively roll a ball on the floor; 2) initiatives: communication partners were taught to reduce or repeat initiatives; 3) regulating intensity: communication partners were taught to wait for the client’s initiative or to exaggerate their movements; 4) affective involvement: communication partners were taught to share emotions tactiley by rubbing the client’s arm or imitating muscle tension.

Phase II: Intervention focusing on Communication

Step 5: *Analyzing communication*. For the Communication phase (Phase II), new videos were analyzed to formulate intervention aims according to the three core categories of behavior, defined as (Martens et al., 2014a): a) sharing experiences: elaborating on events and introducing new events so that the client becomes motivated, feels secure, and knows what is going to happen; b) sharing meaning: interpreting and affirming the client’s expressions of communication and taking turns to negotiate about the correct meaning of an expression; and c) affective involvement: recognizing positive and negative emotions and sharing these emotions in a positive way that is perceivable for the client. See Table 3
Applying the intervention model for fostering affective involvement with persons who are congenitally deafblind: An effect study

for the intervention aims of the Communication phase.

Step 6: Implementing interventions focusing on communication. In a similar procedure as in Step 4, the communication partners were trained to change their communicative behaviors. The following are examples of target behaviors: 1) sharing experiences: increasing coactive acting or checking whether information was perceived; 2) sharing meaning: using more turns to negotiate about a certain topic; 3) affective involvement: using friendly facial expressions or using rhythmical vocalizations and higher pitch.

Step 7: Evaluating. The coach evaluated the intervention with the communication partners in a separate team session. Video fragments of the first recordings at baseline and the last recordings of Phases I and II were used to support the evaluation.

Fidelity.

Intervention fidelity was secured through close collaboration between the coaches and researcher during the implementation of the intervention, and by monitoring (video recording all coaching sessions) and supervising the coaches. Moreover, the coaches followed the 7-step IMAI intervention protocol. In consultation with the communication partners, they formulated aims and target behaviors to ensure the communication partners’ engagement. The coaches monitored changes in the communication partners’ behavior by reviewing the most recent videos shot during the intervention.

4.2.3 Design

A multiple-baseline design across subjects was used to examine the functional relationship between intervention conditions (Baseline, Intervention Phase I, Intervention Phase II, and Follow-up) and possible changes in affective involvement between the clients and their communication partners as well as the clients’ expressions of negative and positive emotions (described under Observation Categories) (Barlow, Nock, & Hersen, 2009). The baseline started in the same week for all clients and was continued while the intervention was randomly introduced for Clarice (week 8), Bryan (week 9), Dewy (week 10), and Nick (week 12). The intervention was followed by follow-up measures after 2, 4, and 6 months.

4.2.4 Observation and Measurements

Video recordings of interaction situations of at least 20 minutes were used to observe the effects of the intervention. The situations differed per client (Table 3). The activities of each communication partner were videotaped weekly during weeks 28-32 and during follow-up. From these videos, 182 recordings in different settings and with different clients were selected for analysis. The observers were kept naïve about the observation
### Table 3
**Target Questions for Coaching, Intervention Aims, and Interactional Situations in the different settings per Client**

<table>
<thead>
<tr>
<th>Client</th>
<th>Target questions for coaching</th>
<th>Interventions aims</th>
<th>Settings and interactional situations</th>
</tr>
</thead>
</table>
| **Clarice** | a) When does she express negative emotions?  
b) How can we regulate agitation and self-stimulation?  
c) How can we establish enjoyment and mutual interactions with her? | • Recognizing and interpreting positive and negative emotions  
• Regulating negative emotions  
• Sharing positive emotions  
• Increasing mutuality and enjoyment | • Sharing positive and negative emotions  
• Sharing positive interactions more often | Group home: leisure and household activities  
Daytime activities center: unstructured and structured activities |
| **Bryan** | a) How can we be explicit without being harsh?  
b) How can we enhance his positive emotions?  
c) How can we share different states of emotions? | • Interpreting and attuning to different states of emotions  
• Evoking positive emotions  
• Sharing negative emotions | • Expressing intentions clearly and interpreting his emotional behaviors  
• Sharing joyful experiences | School: eating yoghurt in the afternoon |
| **Dewy** | a) How can we improve independent acting without losing control of the situation?  
b) How can we establish mutual trust and have a joyful contact? | • Providing predictable interactions  
• Reducing negative tension  
• Increasing positive emotions  
• Sharing positive emotions | • Sharing positive emotions more often  
• Reducing negative experiences | School: making music, arts and crafts  
Group home: leisure and household activities |
| **Nick** | a) How can we prevent him from having negative emotions?  
b) How can we regulate his negative emotions?  
c) How can we promote mutuality and foster positive emotions? | • Reducing negative emotions  
• Regulating negative emotions  
• Increasing mutuality and fostering positive emotions | • Being an interesting and enjoyable partner  
• Sharing meaningful experiences  
• Sharing positive emotions | Group home: having afternoon coffee, having dinner |
phase, definitions were read before each recording session, and inter-observer reliability was checked continuously.

Observation procedure.

Time sampling was used for observation: for the first 10 minutes of each recording, the occurrence of the observational categories was noted on a coding form in 30sec intervals (see also Martens et al., 2014b). Three trained observers (the first author, a psychologist, and a Master’s student in educational psychology) rated the recordings.

Observational categories.

Five behavioral categories were observed. The first category, affective involvement, is a client–communication partner category: sharing negative and positive emotions in a positive way so that they are perceivable to the client (e.g., rubbing the client’s arm when he or she is showing discomfort). The other four categories pertain to emotions displayed by the client: very negative emotions (aggressive and self-abusive behaviors); negative emotions (negative tensed, bad-tempered, compulsive or non-cooperative behaviors); positive emotions (exploring and cooperative behaviors); and very positive emotions (laughing and behaviors expressing excitement). Table 4 lists examples of each client’s behavior.

Training and reliability.

Before data collection, the observers were trained to reach 80% inter-observer agreement. Reliability was calculated for 25% of the formal observations (Barlow et al., 2009). Retraining was provided when the percentage agreement was below 80%. Inter-observer agreement ranged from 75%–100% (SD = 7.98) across clients, with a mean agreement of 95% across observation categories. The mean agreement for affective involvement was 98% (range 80%–100%), for very negative emotions 97% (range 75%–100%), for negative emotions 94% (range 82%–100%), for positive emotions 92% (range 77%–100%), and for very positive emotions 91% (range 77%–100%).

4.2.5 Social Validity

The communication partners’ acceptance of and commitment to the program was secured by consulting the partners repeatedly before, during and after the intervention. The evolving process was evaluated during the coaching sessions and the intervention outcomes were evaluated afterwards. The communication partners’ perceptions of satisfaction and the usefulness and effectiveness of the intervention were measured with an adapted version of the Social Validity Scale (Martens & Janssen, 2011, according to Seys, 1987).
### Table 4

**Examples of Emotional Behaviors per Client**

<table>
<thead>
<tr>
<th>Client</th>
<th>Very negative emotions</th>
<th>Negative emotions</th>
<th>Positive emotions</th>
<th>Very positive emotions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clarice</td>
<td>screaming, pinching and hitting communication partners</td>
<td>ignoring or pushing communication partners away, vocalizations of discomfort</td>
<td>looking at and touching communication partner, affirming initiatives</td>
<td>smiling, vocalizing comfort</td>
</tr>
<tr>
<td>Bryan</td>
<td>persistently biting bib, falling onto the floor, stiffening body</td>
<td>walking away, pulling on communication partner, vocalizations of discomfort</td>
<td>looking at communication partner, participating in acting, exploring objects</td>
<td>laughing, flapping with arms/dribbling with legs</td>
</tr>
<tr>
<td>Dewy</td>
<td>spitting, yelling/screaming, throwing objects</td>
<td>clinging to communication partner (clothing, hair), restless moving, repeating questions</td>
<td>friendly smiling, making eye-contact, affirmatively responding</td>
<td>laughing, joking</td>
</tr>
<tr>
<td>Nick</td>
<td>stamping feet, hitting head, vocalizations of discomfort</td>
<td>pulling and pushing, increasing tempo, increasing muscle tension</td>
<td>repeatedly and softly touching communication partner, vocalizations of comfort</td>
<td>brief moments of smiling, asking for caressing head</td>
</tr>
</tbody>
</table>

### 4.3 Results

#### 4.3.1 Effects on Behavior

Figures 1 and 2 show the observed occurrence of dyadic affective involvement (client–communication partner) and Figures 3 and 4 show the clients’ very positive and (very) negative emotions. Each target behavior is depicted in two figures because of the different nature of settings (see Participants and Settings section): structured (school and daytime activities center) and unstructured (group home).

The left panel of each figure presents the mean occurrence of the target behaviors in the four intervention conditions: Baseline, Phase I, Phase II, and Follow-up. The right panel shows the actual data and trend line within the different conditions. Trend lines are not included if less than three observation sessions were videotaped during follow-up.

**Affective involvement.**

Figure 1 shows that affective involvement for Clarice appears to increase during Phase I, showing an uptrend line. During Phase II, the mean occurrence increases, although a
A downtrend line is displayed in the right panel. During follow-up, affective involvement decreases with a steeper downtrend line than in Phase II.

For Bryan, affective involvement appears during Phase I and increases during Phase II with upward trends during both phases. During follow-up, affective involvement slightly increases but shows a downward trend line.

For Dewy, affective involvement increases considerably during Phase I (showing a downward trend) and slightly decreases during Phase II (including an upward trend). During follow-up, affective involvement further decreases but remains above baseline.

Figure 2 shows that affective involvement varies for Clarice during Phases I and II and follow-up, remaining above baseline conditions. The trendlines during these conditions are all upward.

For Dewy, affective involvement increases during Phases I and II, with uptrend lines while it decreases but remains above baseline conditions during follow-up.

For Nick, affective involvement is observed during one session only in Phase I (three times in session 13): it is absent during Phase II but appears twice during one of the follow-up sessions.

Figure 1. Affective involvement: mean occurrence across the entire phase for each of the four intervention conditions (left), and occurrence during the separate observation sessions within the conditions in structured settings (right)
Very positive and (very) negative emotions.

Figures 3 and 4 present the occurrence of (very) negative emotions (negative and very negative emotions summed) and very positive emotions. In the right panel, the occurrence of (very) negative emotions is subtracted from the occurrence of very positive emotions. Hence, positive values indicate that very positive emotions predominate while negative values indicate that negative emotions predominate.

Figure 3 shows that Clarice’s (very) negative emotions decrease in Phase I, increase in Phase II (remaining below baseline), and disappear during follow-up. Very positive emotions increase during Phase I, decrease slightly during Phase II, and increase considerably during follow-up. The right panel shows that the decrease of very positive emotions in Phase II is due to a high peak of (very) negative emotions in session 19. Unlike the downward trend during follow-up, upward trends are shown during Phases I and II.

For Bryan, (very) negative emotions steadily decrease during Phases I, II, and follow-up. Very positive emotions increase during the three intervention conditions. The right panel shows an upward trend during baseline. Phase I shows a slight downward trend, and Phase II a slight upward trend, followed by a strong upward trend during
follow-up.

For Dewy, (very) negative emotions decrease in Phase I, increase slightly in Phase II (remaining below baseline), and disappear during follow-up. Very positive emotions increase during Phase I, decrease slightly during Phase II, and decrease during follow-up. The right panel shows a downward trend during baseline, suggesting that Dewy's (very) negative emotions increase during baseline. Upward trend lines are shown during Phases I and II. A downward trend reappears during follow-up.

Figure 4 shows that for Clarice (very) negative emotions decrease during Phases I and II and increase again during follow-up (remaining below baseline). Very positive emotions increase during Phase I, decrease during Phase II, and increase again during follow-up. The right panel shows an uptrend line during Phase I, a stable trend line during Phase II, and another upward trend during follow-up.

For Dewy, (very) negative emotions decrease during Phase I, disappear during Phase II, and reappear during follow-up (remaining below baseline). Very positive emotions increase during Phases I and II, and decrease during follow-up. The right panel shows upward trends during Phases I and II.

For Nick, (very) negative emotions disappear during Phases I and II and reappear during follow-up but remain below baseline. Very positive emotions appear

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*Figure 3. (Very) negative and very positive emotions: mean occurrence across the entire phase for each of the four intervention conditions (left), and differences between occurrence of very positive and (very) negative emotions (calculated as positive minus (very) negative emotions) in structured settings (right)*
during Phase I and increase during Phase II and follow-up. The right panel shows stable trend lines for the conditions during baseline and Phases I and II.

### 4.3.2 Social Validity

The ratings on the five-point Social Validity Scale (Martens & Janssen, 2011; 1 = low; 5 = high) were averaged across communication partners. The coaching was judged as “effective” to “highly effective” with preferences for individual coaching (M = 4.5) over team coaching (4.2). The communication partners judged their attitude and communicative skills (4.2) and the client’s behavior (3.9) as “positively changed” to “very positively changed” with the best results for Bryan (4.5 and 4.4). Affective involvement (3.9) was judged to be “somewhat easy to implement” to “easy to implement”, with the highest scores for Clarice (4.2) and the lowest scores for Nick (3.3). In the open comment box in the survey, the communication partners indicated that they could more easily share positive emotions than negative emotions. Sharing attention (3.8), recognizing and interpreting initiatives (3.8), and regulating intensity (3.7) were also judged to be “somewhat easy to implement” to “easy to implement.” Sharing experiences (2.9) and sharing meaning (2.7) were judged to be “rather difficult” to implement, with the lowest
scores for Nick (both 2.3).

### 4.4 Discussion

The present study shows that affective involvement and very positive emotions can be improved and (very) negative emotions can be decreased in persons who are CDB by coaching their communication partners according to the IMAI. The communication partners learned to attune to their clients’ interactive behaviors and emotions and to share emotions and meanings. Three clients showed an increase of affective involvement and all clients showed an increase of very positive emotions and a decrease of (very) negative emotions. The intervention also proved to be effective for different communication partners and in different settings and interactional situations. These promising results agree with those of a previous study by Martens et al. (2014b).

For Dewy, affective involvement improved at school immediately after the onset of the intervention (Figure 3) with high peaks of affective involvement when her communication partner could focus her on one topic at a time. This shows how important it is for communication partners to be able to share a focus on a third element outside the dyadic space with the person with CDB. This communication pattern is the most difficult in establishing social interaction with people with CDB (Janssen & Rødbroe, 2007).

It is remarkable that affective involvement only increased during follow-up in Clarice’s case (group home; Figure 2). Her communication partners continued to apply the IMAI skills learned during coaching (e.g., maintaining the flow of interaction by lowering tempo and repeating initiatives; grabbing opportunities for communication by mutually choosing between activities; sharing emotions by persevering in sharing very positive emotions visually and tactiley).

For Bryan, despite the absence of affective involvement during baseline, the upward trend (Figure 3, right panel) suggests that his emotional behavior had already improved during this condition. Spontaneous improvement of behavior before the intervention begins is a quite common phenomenon in single-case research (Barlow et al., 2009). One explanation for this may be that the communication partners had already – unintentionally – adapted their behavior to Bryan’s behavior during baseline.

For Nick, no clear effects for affective involvement were found because the frequency of affective involvement was too low to draw conclusions. But his emotional behavior improved: (very) negative emotions disappeared completely and very positive emotions appeared during Phase I and further increased during Phase II (Figure 6). Nick’s communication partners indicated that during intervention they could more easily attune their behavior to Nick’s behavior, but sharing experiences and sharing meaning (Phase II of the intervention) remained difficult due to the few and brief moments of mutual contact. A possible explanation for this may be that he has more difficulty making contact because he had few opportunities to develop social communicative relationships.
during his 40 years stay in group homes run by two different organizations specialized in intellectual disabilities. In those settings, there was a lack of deafblind-specific education involving communicational development within social engagement. A second possible explanation could be that the interaction situations were not the best for eliciting affective involvement with Nick. During evaluation, communication partners reported that affective involvement occurred in other interaction situations such as drinking a beer in the pub. Such situations could be chosen for future interventions with Nick.

4.4.1 Study Limitations
As noted above, we could have made a more optimal selection of interaction situations to improve affective involvement.

Second, the small number of clients involved restricts generalization to other persons who are CDB. Replication of the intervention is therefore recommended (Barlow et al., 2009).

Third, the present study only allows conclusions regarding effectiveness of the intervention program as a whole on the clients’ affective involvement and emotions. We cannot draw any conclusions about which categories of communication partner behavior or which specific communication partner behaviors that were assessed during coaching have exactly brought about the observed changes in the client’ affective involvement and emotions. This can be an interesting topic for future studies directed at increasing the effectiveness of the intervention.

4.4.2 Implications for Practice
The IMAI is based on the assumption that focusing on affective involvement during interaction should precede focusing on affective involvement during communication. The communication partners in this study confirmed that this approach was effective, which supports the practicality of the two-phase IMAI-approach.

The social validity outcomes provide useful information on how to maximize the impact of the intervention on practice (Barlow et al., 2009). For example, the communication partners experienced more difficulties in Phase II of the intervention: they found sharing experiences and meaning rather difficult to implement. This suggests that the intervention could possibly be improved by reducing Phase I and extending Phase II.

Consistent with previous studies (Janssen et al., 2003; Martens et al., 2014b), our findings indicate that affective involvement can be improved during intervention, but that it is difficult to maintain affective involvement over time. This is not surprising because it is a constant challenge for the hearing and seeing communication partners to imagine the experience of the person who is CDB (Miles, 1999). Affective involvement, though, serves as the most informative and helpful route to understanding another
person’s emotions. Therefore, we recommend that communication partners be constantly coached in fostering affective involvement or at least be coached at regular intervals.
References


